EFEK PEMBERIAN EKSTRAK ETANOL SELEDRI (*Apium graveolens* L.) TERHADAP KADAR NITRIT OKSIDA TIKUS PUTIH (*Sprague dawley)* MODEL *CHRONIC KIDNEY DISEASE*

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ABSTRAK

Chronic Kidney Disease (CKD) merupakan suatu sindrom klinis yang ditandai dengan penurunan fungsi ginjal yang cepat dengan penurunan laju filtrasi glomerulus selama minimal 3 bulan yang berakibat pada penurunan nitrit oksida. Ekstrak etanol seledri (*Apium graveolens* L.) berfungsi sebagai antioksidan dan antiinflamasi yang berpotensi mencegah kerusakan pada ginjal akibat tindakan *5/6 subtotal nephrectomy*. Penelitian ini bertujuan untuk mengetahui efek pemberian seledri (*Apium graveolens* L.) dalam mencegah penurunan kadar nitrit oksida tikus putih (*Sprague dawley*) model CKD. Metode penelitian adalah eksperimental dengan *post test only with control group design*. Dua puluh lima ekor tikus putih dibagi dalam 5 kelompok. Kelompok A (larutan Aquades) sebagai kontrol sehat, kelompok B (larutan Aquades) sebagai kontrol sakit, kelompok C (250 mg/kgBB), kelompok D (500 mg/kgBB), dan kelompok E (1000 mg/kgBB). Pada hari ke 15 setelah pemberian ekstrak, kelompok A dibedah abdomennya, sedangkan kelompok B, C, D, E dibedah dan dibuat model CKD dengan metode 5/6 *subtotal nephrectomy*. Pemberian ekstrak dilanjutkan sampai hari ke 30. Rerata kadar nitrit oksida kelompok A=9,72±1,00; B=3,45±0,57; C=6,09±0,40; D=6,37±0,59; E=7,22±0,68. Hasil uji *One Way* ANOVA nitrit oksida menunjukkan nilai p=0,000 (p<0,05). Uji *post hoc* LSD nitrit oksida menunjukkan hasil perbedaan rerata yang signifikan antara kelompok A dengan semua kelompok data, dan antara kelompok B dengan C, D, dan E (p<0,05). Pemberian ekstrak etanol seledri (*Apium graveolens* L.) dapat mencegah penurunan kadar nitrit oksida tikus model CKD.

Kata kunci: 5/6 *subtotal nephrectomy*, *Apium graveolens* L., *Chronic Kidney Disease*, Nitrit Oksida, Seledri

THE EFFECT OF ETHANOL EXTRACT OF *Apium graveolens* L. TO NITRIC OXIDE LEVEL ON CHRONIC KIDNEY DISEASE RAT MODELS (*Sprague dawley)*

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ABSTRACT

Chronic kidney disease (CKD) is a clinical syndrome characterized by a rapid decline in kidney function with the decreased glomerular filtration rate for a minimum of 3 months resulting in decreased nitric oxide. Celery extract (*Apium graveolens L.)* contains antioxidant and antiinflammatory has a potential effect to prevent renal damage caused of 5/6 subtotal *nephrectomy*. The aim of this research was to analyze the effect of celery (*Apium graveolens* L.) in preventing the increase of nitric oxide levels in CKD rats models (*Sprague dawley*). The method was an experimental study with post test only control group design. Twenty-five rats male (2-3 months old) were divided into 5 groups. Group A (Aquades solution) as healthy control, group B (Aquades solution) as nephrectomy group, group C (250 mg/kgBW of celery extract), group D (500 mg/kgBW of celery extract), and group E (1000 mg/kgBW of celery extract). On the 15th day after giving the extract and Aquades, group A was operated on the abdomen, while group B, C, D, E were dissected and made CKD model with 5/6 subtotal nephrectomy method. Administration of the celery extract and Aquades was continued given until 30th day. The mean of nitric oxide level in group A=9,72±1,00; B=3,45±0,57; C=6,09±0,40; D=6,37±0,59; E=7,22±0,68. One Way ANOVA test on nitric oxide level showed significant differences ($p < 0.05$). The post hoc LSD test of nitric oxide showed significant differences between group A with other groups and between group B with group C, D, and E ($p < 0.05$). In conclusion, the administration of ethanol extract of celery (*Apium graveolens* L.) can prevent the reduction of rat nitric oxide levels in CKD rats models.

Keywords: 5/6 subtotal *nephrectomy*, *Apium graveolens* L., Celery, Chronic Kidney Disease, Nitric Oxide